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JFE Steel orders Meros off-gas cleaning system from Primetals Technologies for new Fukuyama 3 sinter plant

- **Adsorbent injection type dry gas cleaning system firstly applied for a sinter plant in Japan**
- **System designed to reduce SO_x by more than 97%**
- **PCDD/F (Dioxins) concentrations are reduced to less than 0.1 ng-teq/Nm³**
- **Extremely low dust**

Primetals Technologies has received an order from Japanese steel producer JFE Steel Co. (JFE Steel) to supply a Meros (Maximized Emission Reduction Of Sintering) off-gas cleaning system for its new sinter plant for the Fukuyama, Japan production site. The Meros plant is designed to clean the process gas resulting from the operation of the Fukuyama 3 sinter plant, which will also be supplied by Primetals Technologies. It will be the adsorbent injection type dry gas cleaning system firstly installed at a sinter plant in Japan, eliminating the use of water in the gas cleaning process. The Meros system is designed to reduce SO_x content by more than 97%, bring down PCDD/F (Dioxins) concentrations to less than 0.1 ng-teq/Nm³ and significantly reduce dust. The new plant is expected to be started-up in the fourth quarter of 2019, together with the sinter plant.

JFE Steel's new sinter plant 3 has a rated capacity of 4.8 mmtpy . Due to strict environmental regulations, the remaining sinter process gas has to be treated before it can be released to the environment. This includes high efficiency de-dusting in combination with removal of acidic gas components, especially SO_x as well as reduction of Dioxins and Furans (PCDD/F). The Meros plant to be installed at the Fukuyama site will use sodium bicarbonate (SBC) as desulphurization agent, making it the second plant world-wide employing this process.

Primetals Technologies will be responsible for the engineering, delivery of key equipment as well as for advisory services for cold and hot commissioning. JFE Steel's target is to minimize the amount of by-products to be landfilled. Following the first installation in China, this will be the second installation of a Meros plant in Asia. The first Meros plant started operations more than 10 years ago at voestalpine Stahl GmbH in Linz Austria.

The Meros process involves injecting and finely distributing adsorption and desulfurizing agents, such as activated carbon and sodium bicarbonate, into the off-gas flow. This efficiently binds and removes heavy metals, harmful and hazardous organic components, as well as sulfur dioxide and other acidic gases. The use of sodium bicarbonate to reduce the amount of sulfur dioxide also eliminates the need for a conditioning reactor. The dust particles are deposited in a specially developed, energy-efficient bag filter. The greater part of the dust removed by the precipitator is recycled back into the flow of off-gas to further optimize the efficiency and cost-effectiveness of the gas purification process. Any remaining unutilized additives are then once more in contact with the off-gas, so that they are finally almost completely utilized. There is also considerably less discharged residue when sodium bicarbonate is used instead of slaked lime. The process automation system ensures stable operation, even when there are considerable fluctuations in the volume and composition of the off-gas. Emission limits can therefore be observed at all times.

JFE Steel operates seven steel works in Japan and has a work force of more than 44.000 employees (Consolidated). The company was founded in 2003 and is based in Tokyo, Japan. JFE Steel Corporation manufactures and sells steel products and offers steel sheets, plates, shapes, electrical sheets, pipes and tubes, stainless products, steel bars and wire rods, and iron powders, as well as certain titanium products.

MEROS is a registered trade mark of Primetals Technologies in certain countries.



Meros plant from Primetals Technologies at voestalpine Stahl GmbH in Linz, Austria.
A comparable plant will be installed at the Fukuyama, Japan production site of JFE Steel.

This press release and a **press picture** is available at

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Contact for journalists:

Dr. Rainer Schulze: rainer.schulze@primetals.com

Tel: +49 9131 9886-417

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Primetals Technologies, Limited, headquartered in Frimley, Camberley, United Kingdom, is a worldwide leading engineering, plant-building and lifecycle partner for the metals industry. The company offers a complete technology, product and service portfolio that includes the integrated electrics, automation and environmental solutions. This covers every step of the iron and steel production chain that extends from the raw materials to the finished product – in addition to the latest rolling solutions for the nonferrous metals sector. Primetals Technologies is a joint venture of Mitsubishi Heavy Industries (MHI) and Siemens. Mitsubishi-Hitachi Metals Machinery (MHMM) - an MHI consolidated group company with equity participation by Hitachi, Ltd. and IHI Corporation - holds a 51% stake and Siemens a 49% stake in the company. The company employs around 7,000 employees worldwide. Further information is available on the Internet at www.primetals.com.

Primetals Technologies, Limited
A joint venture of Siemens, Mitsubishi Heavy Industries and Partners
Communications
Head: Gerlinde Djumljija

Chiswick Park, Building 11, 566 Chiswick High Road
W4 5YS London
United Kingdom